



# Prospective assessment of small-scale clam fishery: A case of *Korapuzha* river basin in Kerala, India

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# Bivalves

- ▶ Second largest species rich phylum in the world- Molluscs
- ▶ Class- Bivalves- Distributed all along Indian coast
- ▶ Clams -most important resource followed by mussel and oyster
- ▶ Subsistence fishery
- ▶ Livelihood of coastal populations, Nutritional security



# Bivalves

- ▶ Exploited for meat, shell (lime industry), brood stock feed in shrimp farming
- ▶ Characteristic flavor and nutritional properties
- ▶ Low in fat with a high amount of mono and polyunsaturated fatty acids
- ▶ Quality protein providing all the essential amino acids, vitamins and minerals
- ▶ Sedentary behavior-easy to harvest
- ▶ More than half of bivalve *fishery-black clam*(*Villorita cyprinoides*)



# Kerala coast

- ▶ 41 rivers, 30 Estuaries in Kerala
- ▶ Richest clam resources in India
- ▶ Kerala leads in clam production followed by Karnataka
- ▶ *Vembanad* lake major estuarine system with 5000 clam fisher families
- ▶ 90 % of total clam production in India-Black clam exploited from *Vembanad* lake



# MALABAR Region of Kerala

- ▶ Significant bivalve resources in the region
- ▶ Subsistence fisheries of the local population
- ▶ Clams and oysters-- in estuaries and backwaters
- ▶ *Paphia malabarica*- Dharmadom, koduvally, Azheekkal, Valapattinam, karyangod-chittari, Ashttamudi
- ▶ *Meretrix casta*: Moorad, Korappuzha, Chaliyar, Mahe,
- ▶ *Villorita cyprinoides*, -Korappuzha

# Study area

- ▶ Korapuzha, also known as *Elathur* River, is a short river of 40 km
- ▶ Flowing through the Kozhikode district of Kerala state in India
- ▶ **Objective:**
- ▶ To assess the prospect of small-scale clam fishery in a village Atholi, located along Korapuzha river basin



# Korapuzha river basin -Clam species

- ▶ Gray clam
- ▶ Black clam
- ▶ Yellow clam
- ▶ Short-neck clam



# Velur panchayath in Kozhikode

- ▶ Part of the Korappuza river basin
- ▶ Clam fishing subsistence livelihood option for the local community
- ▶ More than 40 households depends on clam fishery
- ▶ Men are mainly engaged in clam fishing
- ▶ Women are mainly involved in clam processing



# Sampling

- ▶ Purposive sample of 42 respondents (21 women and 21 men)
- ▶ Interviewed during January 2022

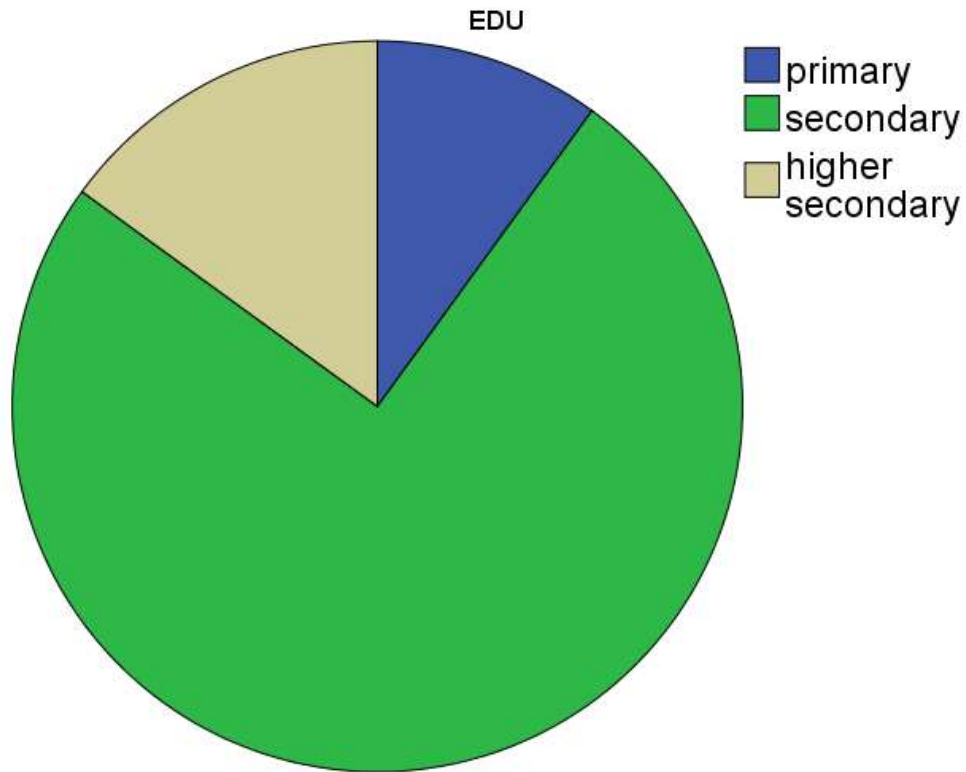


# General socio-economic characteristics of clam fishers

## Distribution of respondents based socio-personal variables

	Minimum	Maximum	Mean
Age (years)	27	77	51
Experience In Fishery (years)	1	50	17.28
Family size	2	8	4
Monthly Family Income (Rs)	200	15000	1690

# Distribution of respondents based on level of education



# Distribution of respondents based on alternate employment

OTHER WORKS	
	Percent
NO OTHER WORKS	81.00
FISH VENDING	7.10
COOLIE/daily wage worker	4.80
NREGS	7.10

ECONOMIC STATUS			
		Percent	
BPL		92.1	
APL		7.9	

# Perception about employment prospects for women and TNA

Employment prospects		Percent
Clam processing		81.0
Fish sale, ornamental fish		9.5
Fishing		4.8
Value addition		4.8

In which area you require training		
		Percent
	Clam Processing	100.0

## Distribution of respondents based on area of interest and products to be developed

Are you interested in clam value addition

	Percent
Yes	84.6
No	15.4
Total	100.0

What Are The Products In Which You Are Interested

	Percent
Pickle, dry Fish	100.0

## Distribution of respondents based on social participation

### SHG-membership

		Percent
	NO	35.5
	YES	64.5

### Cooperative Society membership

		Percent
	YES	97.6
	NO	2.4



# Clam Harvesting

- ▶ Start at 5am and end by 8am- 3hours work- one person per boat
- ▶ Small canoes are used by almost all the fishers
- ▶ 99 per cent of them possess own boats
- ▶ Canoes are made of traditional boat building materials, FRP
- ▶ The canoes have not undergone motorization
- ▶ The area of operation – Velur, Kanayankode, Kanayankodu, akalappuzha, puthanchery...
- ▶ Gear used is locally known as *koruvala*



# Clam harvesting

- ▶ The peak season -----one person per boat
- ▶ Lean season -----2 person per boat go to far places-  
sharing of income
- ▶ 10-15 box of clam- one box will yield one kg meat
- ▶ Rs.110-120/box price
- ▶ Rs.1000-1200 per person per day in good season
- ▶ Harvest continue for nearly 5-6 months in a year
- ▶ Some time very small sizes are also harvested

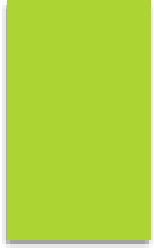


# Clam processing

- ▶ 12 clam processing sheds are operational with women as labourers
- ▶ Boil the clam in big vessels for about 40 minutes, using coconut husk as fuel
- ▶ Then put them into a flat sieve fixed on a table
- ▶ Using a thin, strong board rub the hot clam
- ▶ The meat falls on the table and shells remain in the sieve
- ▶ It is easy to remove the shell while the clam is hot
- ▶ The women clean the clam meat thoroughly after processing. After washing, they pack the clam meat for dispatch
- ▶ Wage labour Rs.600-700 per day in a peak season

# Local employment

- ▶ The women earn against the volume of work done
- ▶ Convenient work hours
- ▶ Reasonable wages
- ▶ Working within their village make the work attractive to the women
- ▶ The work atmosphere is also homelike-share a good rapport



# Challenges in clam fishery

- ▶ **Juvenile catch**
- ▶ Now the community started realizing need for conservation of resources
- ▶ Co-management decisions taken by the community themselves
- ▶ Clam shed work is limited for few days in spawning season
- ▶ **Drudgery in processing**
- ▶ Need for technological intervention
- ▶ Unfelt need to felt need

# Challenges in marketing

- ▶ Smooth sale will not happen daily
- ▶ Hotels deny purchase some days
- ▶ Due to this fishers don't go to harvest next day
- ▶ Need proper post harvest handling, storage and value addition intervention
- ▶ Popularization in other areas will expand market
- ▶ Middlemen get additional income from shell, not fishers
- ▶ Price fixation done by processors, not involving cooperative society

# Conclusion

- ▶ Privately owned clam sheds operate in a traditional way
- ▶ Scope for improvement in terms of working conditions of women and infrastructure facility
- ▶ The concept of responsible fishing needs to be promoted among fisherfolks through strict regulatory measures
- ▶ Processing of clam and value addition -have potential in these area
- ▶ scientific clam fish processing and value addition can be introduced for the livelihood improvement of the fishers